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**From:** Lindstrom, Andrew [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=04BF7CF26AA44CE29763FBC1C1B2338E-LINDSTROM, ANDREW]  
**Sent:** 5/5/2016 5:34:28 PM  
**To:** Sun, Mei [msun8@uncc.edu]; Strynar, Mark [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=5a9910d5b38e471497bd875fd329a20a-Strynar, Mark]  
**CC:** Detlef Knappe [knappe@ncsu.edu]  
**Subject:** RE: paper outline for the ether compounds  
**Attachments:** Elisa's MATERIALS AND METHODS - paper.docx; Nakayama et al. 2010.pdf

Mei,

I don't have anything written up for the large volume injection protocol – yet.

I am working on it for our long awaited sludge paper though. I asked Elisa to help out with this and she sent me the methods section of her dissertation which I've attached above. I think we'll need to get more added to this, but it may be a good start.

As for the SPE and the UPLC methods, please see the write up in Nakayama et al. 2010.

Mark will have to check all of this out eventually.

Thank you,

Andy

**From:** Sun, Mei [mailto:msun8@uncc.edu]  
**Sent:** Thursday, May 05, 2016 10:14 AM  
**To:** Lindstrom, Andrew <Lindstrom.Andrew@epa.gov>; Strynar, Mark <Strynar.Mark@epa.gov>  
**Cc:** Detlef Knappe <knappe@ncsu.edu>  
**Subject:** Re: paper outline for the ether compounds

Thank you for the suggestions, Andy. Do you have some available description of the analytical methods (both the large volume injection and the SPE with UPLC) that we can use in this paper? Thank you.

Mei Sun

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9201 University City Blvd | Charlotte, NC 28223  
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On Tue, May 3, 2016 at 1:37 PM, Lindstrom, Andrew <[Lindstrom.Andrew@epa.gov](mailto:Lindstrom.Andrew@epa.gov)> wrote:

Detlef,

Showing that the ethers are present in finished drinking water at such high concentrations (Figure 2) is going to be a very big deal.

Is Wilmington OK with this? Should they be coauthors? This could be very important for them. We should stand with them.

Also, if we could tie in the UCMR3 results, demonstrating that we are only seeing the tip of the iceberg looking for the "legacy" PFAS (only PFHpA was measured there at 12 - 27 ng/L), it will be very important.

Now that I think about it, would ES&T Letters be too restrictive in terms of word count? This is a big story.

Thank you,

Andy

**From:** Detlef Knappe [mailto:[knappe@ncsu.edu](mailto:knappe@ncsu.edu)]  
**Sent:** Tuesday, May 03, 2016 10:47 AM  
**To:** Lindstrom, Andrew <[Lindstrom.Andrew@epa.gov](mailto:Lindstrom.Andrew@epa.gov)>  
**Cc:** Mei Sun <[msun8@uncc.edu](mailto:msun8@uncc.edu)>; Strynar, Mark <[Strynar.Mark@epa.gov](mailto:Strynar.Mark@epa.gov)>  
**Subject:** RE: paper outline for the ether compounds

Thank you for the encouragement, Andy. This is a semi-invited es&T letters paper via Bill Cooper, who is the environmental engineering program director at NSF. We will proceed expeditiously. Let us know if you see issues or additional points you think we should address. Mei will keep fleshing out the paper, but we are very much interested in any input you can give. Apart from the two of you, we will add Elisa as a co-author. Anyone else we should include?

Best,  
Detlef

On May 3, 2016 10:23 AM, "Lindstrom, Andrew" <[Lindstrom.Andrew@epa.gov](mailto:Lindstrom.Andrew@epa.gov)> wrote:

Mei,

This looks really great.

The Office of Water is going to be very interested. Maybe too interested.

This is excellent work establishing the continued presence of the traditional PFCAs and PFSA's for the entire length of the river, the emergence of the PFECAs as replacements, and the relative difficulty for water treatment processes to effectively remove these materials. The data on the removal efficiency of the PFECAs is especially compelling.

This work compliments and adds to Mark's recent paper very nicely.

There are many important implications concerning what kinds of new compounds to look for, how to remove them, and what exposures might mean.

This work will certainly receive a great deal of attention.

I'm personally not too concerned about the low level quantitation. QL/2 or zero is fine – the story is up in the 100s of ng/L.

I think it would be good to try to get this out before OW announces the Health Advisories for PFOA and PFOS.

Please let me know how I can help.

Thank you,

Andy

**From:** Sun, Mei [mailto:[msun8@uncc.edu](mailto:msun8@uncc.edu)]

**Sent:** Tuesday, May 03, 2016 9:27 AM

**To:** Strynar, Mark <[Strynar.Mark@epa.gov](mailto:Strynar.Mark@epa.gov)>; Lindstrom, Andrew <[Lindstrom.Andrew@epa.gov](mailto:Lindstrom.Andrew@epa.gov)>

**Cc:** Detlef Knappe <[knappe@ncsu.edu](mailto:knappe@ncsu.edu)>

**Subject:** paper outline for the ether compounds

Hi Mark and Andy

Hope things are going well. Detlef and I are preparing a manuscript on the occurrence and fate of PFASs including the ethers for ES&T Letters, and we are hoping to get your opinion. The paper outline is attached. Would you please take a look and let us know your thoughts? We are not very sure about the nomenclature of the ethers, and have some debates on how to deal with concentrations lower than the quantification limits when doing statistic analysis. Thank you.

Best,

Mei Sun

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